

~~a conveyor disposed upstream of said nip and driven to convey the layer of hydrous polymer gel to the nip at a speed sufficiently less than the circumferential speed of said cutting roll to avoid congestion.--~~

REMARKS

Favorable reconsideration of the present application is respectfully requested.

Claims 17, 19, 21, 22, 26 and 27 are active and stand rejected. Claims 2, 12, 13 and 18 have been withdrawn from consideration. Claims 1, 3-11, 14-16, 20 and 23-25 have been canceled.

The invention is directed to a device for processing hydrous polymer gel of variable thickness. It includes a conveying device which is driven to convey the layer of hydrous polymer gel to the nip between the cutting roll and the backup roll at a speed less than the rotational speed of the cutting roll. For example, referring to the numeration of the figures, the conveying device 100 conveys the layer 10 of hydrous polymer gels to a nip between the cutting roll 11 and the backup roll 12. The conveying device is arranged to convey the layer of hydrous polymer gel at a speed less than the rotational speed of the cutting roll. This accelerates the cut sections away from the nip and so avoids congestion of the gel at the cutting roll (see last four lines of page 4, and the middle paragraph of page 10 in the specification).

The backup roll 12 has notches 12A (Fig. 5) in which the edges of the cutting elements 14, 15 may be guided (page 11, lines 12-13).

Claims 17-19 and 26 are not obvious over Heywood in view of Williams, as applied in paragraph 5 of the Office Action. The Examiner has recognized that there is no teaching in Heywood for the claimed feature of a conveying device being driven separately from the

cutting roll at a speed less than the circumferential speed of said cutting roll. Instead, the Examiner has now clarified that Williams has been cited only to teach an additional conveyor for feeding material to the conveyor L of Heywood, and that it is this additional conveyor which is driven at a speed less than the circumferential speed of said cutting roll (see paragraph 9). However, the Examiner is respectfully reminded that Claim 26 requires that the conveying device which is driven at a speed sufficiently less than the circumferential speed of said cutting roll to avoid congestion *is driven to convey the layer of hydrous polymer gel to the nip formed by the back-up roll and the cutting roll.* The additional conveyor of Williams, if positioned upstream of the conveyor L of Heywood, would not convey a material to the nip between the rolls F and C of Heywood, but would only convey the material to the conveyor L, and so cannot satisfy this claim limitation.

It is instead the conveyor L of Heywood which conveys the material to the nip. As has already been discussed, those skilled in the art would not have been motivated to have driven the conveying device L of Heywood separately from the cutting roll, both because it would have increased the complexity of the device, and because the resulting alleged "advantage" of being able to drive the conveying device at a speed different from that of the cutting roll would be *undesirable* in Heywood. (By driving the tobacco leaves on the apron at the same speed as the cutting roll, the tobacco leaves in Heywood may be cut without wrinkling or shearing in order to provide filler having exactly the right length: since the bottommost leaf in the layer of leaves on the apron is cut after the topmost leaf, a speed differential will tend to shift the layers of leaves as they are being cut. If one were to drive the conveying device of Heywood separately from the cutting roll so as to permit a greater or lesser rotational speed of the conveying device as compared to the cutting roll, the resulting greater or lesser rotational speed would undesirably produce either wrinkling or shearing in

the cut stock, depending upon the speed differential between the conveying device and the cutting roll.)

Concerning the rejection of Claims 21, 22 and 27 based upon Heywood and Williams, in view of Stream (paragraph 6), the Stream reference was only cited for the teaching of a backup roll with depressions, and provides no teachings for overcoming the shortcomings of the primary references with respect to independent Claim 26. In addition, Stream merely teaches a chopper for glass filaments, and so it would not have been obvious for those skilled in the art to provide the notches 102 of Stream in the *tobacco cutter* of Heywood.

Claims 17, 19 and 26 have been rejected as being obvious over the newly introduced U.S. patent to Leeper et al in view of the newly introduced U.S. patent to Anetsberger. The Examiner has there recognized that Leeper et al "lacks a circumferentially extending cutting element," but alleges that a circumferentially extending cutting element would be obvious in Leeper et al, in view of Anetsberger.

Leeper et al is specifically directed to a licorice cutter (col. 1, lines 6-26). Parallel strips 20 of licorice are conveyed on a conveyor 12 to a rotary cutter 31 having axially extending blades 32. The blades 32 cut the licorice strips to lengths corresponding to the spacing of the blades 32. As the Examiner has recognized, Leeper et al lacks a circumferentially extending cutting element. But the inclusion of a circumferentially extending cutting element would not be obvious in Leeper et al, even if such a cutter element were known, *per se*, from Anetsberger.

Anetsberger has circumferentially extending cutting elements 13 in order to cut a sheet of dough into pieces. But the circumferentially extending cutting elements 13 would be unnecessary in Anetsberger if the dough were already cut into strips. Similarly, the licorice cutter of Leeper et al has no need for circumferentially extending cutting elements in order to

cut strips of licorice into pieces. So those skilled in the art would have had no motivation to have modified Leeper et al to include the circumferentially extending cutting elements of Anetsberger, since they would not contribute to the cutting of the strips of Leeper et al.

Concerning the rejection of Claims 21, 22 and 27 based upon Leeper et al and Anetsberger in view of Stream (paragraph 8), as already mentioned the Stream reference was only cited for the teaching of a backup roll with depressions, and provides no teachings for overcoming the shortcomings of the primary references with respect to independent Claim 26. In addition, Stream merely teaches a chopper for glass filaments, and so it would not have been obvious for those skilled in the art to provide the notches 102 of Stream in the *licorice cutter* of Leeper et al.

Regarding the rejection under 35 U.S.C. § 112, second paragraph, claim 26 now recites a "conveyor. A conveyor clearly denotes a structure. Simply because "conveying" is also a function does not render this recitation of structure indefinite under 35 U.S.C. § 112. As the Federal Circuit explained in *Greenberg v. Ethicon Endo-Surgery Inc.*, 39 USPQ2d 1783, 1786 (Fed. Cir. 1996):

Many devices take their names from the functions they perform. The examples are innumerable, such as "filter," "brake," "clamp," "screwdriver," or "lock." Indeed, several of the devices at issue in this case have names that describe their functions, such as "graspers," "cutters," and "suture applicators."

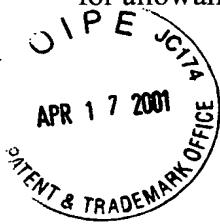
What is important is not simply that a "detent" or "detent mechanism" is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art.

Similarly, a conveyor takes its name from its function does not render it a functional recitation since a "conveyor" has a reasonably well understood meaning in the art.

As for the meaning of "sufficiently less," this is defined in the claim itself as sufficiently less "to avoid congestion."

The Examiner has both objected to the drawings as failing to disclose the claimed "depressions," and has disapproved proposed Figure 5 which illustrates the claimed "depressions." The Examiner states that Applicants did not provide a basis in the original disclosure for the specific back-up roll configuration, but line 12 of page 11 describes "notches" in the surface of the back-up roll to guide the edges of the cutting elements. Proposed Figure 5 shows nothing more than this.

Applicants therefore respectfully submit that the present application is in a condition
for allowance and respectfully solicit an early Notice of Allowability.



Respectfully submitted,

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IN THE CLAIMS

--26. (Amended) A device for processing hydrous polymer gel of variable thickness, comprising:

a cutting roll having at least one axially extending cross cutting element including a cutting edge, and a circumferentially extending cutting element including another cutting edge;

a back-up roll spaced from said cutting roll so as to form a nip, said back-up roll being mounted relative to said cutting roll such that at least one of said cutting edges cooperates with said back-up roll to cut a layer of hydrous polymer gel at the nip; and

a [conveying device] conveyor disposed upstream of said nip and driven to convey the layer of hydrous polymer gel to the nip at a speed sufficiently less than the circumferential speed of said cutting roll to avoid congestion.--

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